



## ***PRODUCT OVERVIEW***



## ***Solutions in Water and Waste Water***

***Online & Portable Analytical Instrumentation***

***Innovative Solutions in Water & Waste Water***

***Calibration Instruments & Tools***

# Royce Water Technologies Pty Limited

## ‘Commitment to Excellence’

Royce Water Technologies was established in 2004. The 3 working directors have instrumentation backgrounds, having worked within this industry for over 20 years. Our offices are situated in Brisbane, Sydney, Melbourne and Perth, with distributors in other States. Our Scope of Supply is solution based, selected from reputable suppliers around the world.

Water and wastewater instrumentation have proven difficulties, and we believe that every application has its own individual characteristics requiring a dedicated solution rather than a one instrument for all applications approach. Because of our hands on experience we are able to offer installation, commissioning and calibration services for our products. Our challenge is to provide products for our customers that will assist them with their processes efficiently, accurately and reliably with lowest cost of ownership.

With every product supplied comes after sales technical support second to none. In addition, subject to demands, we either commission and/or train maintenance staff on each of our products at no extra charge. Periodic training courses on water and wastewater instrumentation are conducted around the country. Our website provides useful educational information that can be downloaded.

Each year we invest significantly in staff training through attendance at seminars, conferences and technical courses, both locally and overseas. Royce Water Technologies contributes to the Australian Water and Wastewater Industry through participation in Australian Water Association (AWA) showcase events such as Ozwater and AWA Specialty Conferences. We are also a corporate member of the AWA as well as the Water Industry Operators Association (WIOA). We are members of the Institute of Instrumentation Control and Automation (IICA).

- Rod Wellings
- Arthur Kokolekos
- Tim Curtis

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## Royce Technologies Multi-Channel Water Process Analyzers

- Up to four sensor inputs of any combination (maximum of 2 dissolved oxygen and 2 total suspended solids)
- Microprocessor based electronics
- Electrochemical DO self-cleaning (8200 Series Only)
- Menu driven user interface
- Backlit, 4 line/20 character harsh environment display
- Four independently configurable relays
- Electronic self-diagnostics
- 24V DC, 115 / 240V AC supply voltage
- Isolated analog outputs
- Two digital outputs plus Modbus Communications
- Profibus DP (Optional)
- See page 11 for suspended solids sensors



## Royce Technologies 9200 Online Galvanic Dissolved Oxygen Analyzer

- Patented self-cleaning electrochemical cleaning for sensor
- Microprocessor based electronics
- Range 0 - 99.9 PPM and % saturation 0 - 99.9%
- On-screen 24 hour trend display
- Automatic temperature, altitude, and salinity compensation
- 240V AC and 24V DC operating supply voltages
- 4 x Programmable relays for error alarm, jet-clean, and set point
- 2 x Isolated 4 - 20mA or 0 - 20mA outputs for dissolved oxygen and temperature
- Use with model Royce Technologies 96A Galvanic Dissolved Oxygen Sensor



## Royce Technologies 95A & 96A Galvanic Dissolved Oxygen Sensors

- Solid platinum cathode with lead anode - handmade and designed for harsh wastewater conditions
- Rugged, non-corrosive construction
- Automatic temperature compensating
- Can be easily rebuilt in the field
- No special tools required
- Membrane replacement in less than 10 minutes including calibration
- Patented electrochemical self-cleaning on model 96A (pictured on the left)
- Jet-cleaning available



**Part of Australia's most proven range of Dissolved Oxygen Systems with excellent long term references from dozens of satisfied users throughout the country**





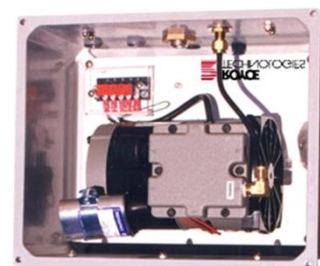
## Royce Technologies Jethead Cleaning System

- For use with dissolved oxygen, pH, and/or ORP sensors
- Where local air or water is available our cleaning kit including a solenoid and all necessary accessories can be utilized to supply a periodic wash stream across the electrode measuring surface. Where local air or water is not available our industrial jet compressor system provides the same reliable self-cleaning of the sensors
- A solenoid can be used to supply a periodic high pressure wash stream across the electrode measuring surface, or a miniature industrial, rail mounted, compressor system (below) can be supplied that will periodically supply air across the membrane surface
- The DO sensor is mounted in a moulded epoxy "jethead" which is contoured in order not to collect rags or other debris
- Used with model 95A or 96A Dissolved Oxygen Sensors or S400 Series pH and ORP Sensors



## Royce Technologies JC1 Jet Compressor

- Rugged, continuously rated air compressor
- Hundreds installed - not one failure
- Supply pressure is 2 - 4 bar
- Temperature limits are 0°C - 50°C
- Weatherproof enclosure
- Input power is 230V AC 50Hz
- Handrail mountings are included for easy attachment with U-bolts
- Compressor cleaning cycle is controlled by sensor analyzers
- Used with Royce Technologies Jethead
- Available also for multiple sensor



## LTH Electronics MPD53 pH/ORP Analyzer and S400 pH and ORP Sensors

- Simple intuitive programming in either IP66 panel or surface mount options
- Large backlit multifunction display, 240V AC power supply with low voltage option
- Accepts pH (glass or antimony) or Redox (ORP) electrodes
- Up to four relay outputs programmable for alarms or on/off, time or pulse proportional control
- Up to two isolated fully configurable 0/4-20mA outputs
- Online help with text error messages
- Automatic sensor cleaning
- pH range: 0.00 to 14.00pH
- ORP range: -1999mV to +1999mV
- Accuracy is 0.05pH and 3mV, accepts Pt100, Pt1000 or 3K thermistor inputs for pH
- Uses LTH Electronics S400 Series pH or ORP Sensors with or without jethead for sensor cleaning



## LTH Electronics HPT63 pH/ORP Transmitter and S400 pH and ORP Sensor

- Custom IP66 enclosure available as head mounted or wall mounted versions
- Large back lit multifunction display
- Displays pH or Redox and temperature units
- Dual isolated 4-20mA & relay outputs
- Relays can be configured for on/off, time, and pulse proportional control options
- 3 Digital inputs to control specific functions
- Supplied complete with sensor and T-piece (head mount version only)
- Purpose built detachable electrodes for easy calibration and maintenance
- Low voltage operation 15-30V AC/DC
- Uses LTH Electronics S400 series pH or ORP sensors with or without jethead for sensor cleaning



## LTH Electronics MXD70 Series Multiparameter Analyzer / Controller

- MXD73 compact 96 DIN IP66 panel mount option
- MXD75 IP66 surface/pipe mount version
- 3¾" QVGA Backlit LCD display provides clear indication as single or multiple measurements
- Parameters include: contacting and electrode-less conductivity, pH/redox or dissolved oxygen measurement
- Up to 3 measurement parameters of any combination
- User selectable bar graph display option
- Plug and play card detection for simple measurement and output expansion upgrades
- SD card interface allows trouble free saving of configuration and simplifies software updates
- Base models include 2 relay outputs and a single isolated 4-20mA current output
- Can be expanded up to 6 relay outputs and 6 isolated 4-20mA current outputs
- Relays are fully configurable including on/off, time or pulse proportional operation
- 8 Independent programmable digital inputs with user selectable operations
- Dedicated error page provides up to date controller status
- 85-265v or 18-32v Supply options (AC or DC)



## LTH Electronics MED53/MCD53 Conductivity Analyzer and ECS/CMC Sensors

- Choice of electrodeless (toroidal) or contact type sensors
- Simple intuitive programming in either IP66 panel or surface mount options
- Large backlit multifunction display, 240V AC power supply with low voltage option
- Able to display conductivity, solution concentration and temperature
- Auto range, remote range or single range, plus custom range facility
- Up to four relay outputs for on/off, time, and pulse proportional control options
- Up to 2 x isolated fully configurable 0/4-20mA outputs
- Online help with text error messages
- Can be used with Pt100 and Pt1000 RTD sensor input from conductivity sensors



## LTH Electronics HET63 Conductivity Transmitter and ECS20 / ECS40 Sensors

- Custom IP66 enclosure available as head mounted or wall mounted versions
- Measurement of conductivity, solution concentration, salinity, and temperature
- Preset curves stored for common chemicals and salinity
- Custom curve from 2 to 9 points can be entered
- Dual isolated 4-20mA and relay outputs
- Relays can be configured for on/off, time, and pulse proportional control options
- Digital inputs to control specific functions
- Supplied complete with sensor and T-piece (head mount version only)
- Low voltage operation 15-30V AC/DC



## AppliTek Ra-TOX® - Online Toxicity Analyzer

The **Ra-TOX®** toxicity analyzer is able to detect wastewater streams that are acutely toxic for the biomass before the waste water reaches the treatment plant. This allows the operator to take corrective measures to protect the viability of the waste water treatment plant, by storing the toxic water in a buffer tank. The system thus functions as an “early-warning” and system check.

In order to keep the wastewater treatment plant (WWTP) under control and to make decisions of minimizing the potential influence of toxic compounds on the stable and proper WWTP operation the on-line toxicity monitor **Ra-TOX®** was developed. The biological part of the WWTP is the most vulnerable. Because of the fluctuation of the raw wastewater composition and especially the presence of toxic substances, it is really necessary to detect these substances early in the influent to the treatment plant. Moreover, on basis of the measurements actions should be taken to diminish the negative influence of toxic substances on microorganisms involved in wastewater treatment.

The respiration module of the **Ra-TOX®** on-line Toxicity analyzer measures every minute the respiration rate of the mixture in the batch tank. Every minute the measured value is compared with a calculated moving average.



## AppliTek Industrial Process Analyzer—IPA® - Online Single Parameter Analyzer

- Online single-parameter analyzer, wet-chemical principle
- Proven chemistry methodologies
- 5 ¾" color touch screen with function buttons for immediate access to submenus
- Digital outputs: up to 12 DO (24 VDC) and 6 DO (220 VAC) available for activation of hardware components
- Digital inputs: up to 2 DI
- Up to 2 analog inputs available for electrodes, temperature, conductivity
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- Up to 3 streams can be sampled by the internal stream selection
- Emergency stop

**Hundreds of parameters available**





## AppliTek Ra-BOD® - Online Biological Oxygen Demand Analyzer

- Online BODST (short-term Biological Oxygen Demand ) analyzer
- Respirometry using activated sludge from the treatment plant
- High quality sample, circulation and mixing pump
- Unique measurement concept by means of a single DO probe
- 10 ¼" color touch screen with excellent graphics for process follow-up, programming and maintenance
- Auto-cleaning
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- Emergency stop
- Also available as an at-line analyzer



## AppliTek AppliTOC® - Online Total Organic Carbon Analyzer

- True continuous analysis thanks to the Hot-aerosol / UV-persulphate analysis method
- High quality sample, transfer and addition pumps for acid and persulphate reagents, mass flow meter, dual wavelength IR detector, UV furnace
- Compliant with standard methods USEPA 415.2, ISO 8245 and DIN-EN 1484
- 5 ¾" color touch screen with function buttons for immediate access
- Standard auto-cleaning, auto-validation, auto-calibration
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- Emergency stop
- **Total Organic Carbon:** Measurement of non purgeable organic carbon (NPOC)
- **Total Inorganic Carbon:** Measurement of inorganic carbon compounds (including volatile organic compounds)
- **Total Carbon:** Measurement of all carbon compounds (with single IR detector)
- **TRUE Total Organic Carbon:** Measurement of TOCTRUE (=TC-TIC, by calculation, with double IR detector)



## AppliTek AppliCOD® - Online Chemical Oxygen Demand Analyzer

- Online chemical oxygen demand analyzer, wet-chemical principle
- High quality rinsing, draining & cleaning pumps, oxidation reactor, precision dispensers (for titration), photometer and analysis cuvette (for colorimetric determination)
- Available in dichromate configuration/compliant with ISO 6060 standard method
- Available in permanganate configuration/compliant with JIS K0806 and JIS K0102 standard methods/also compliant with ISO 8467 standard method for permanganate index
- 5 ¾" color touch screen with function buttons
- Auto-cleaning, auto-validation, auto-calibration (where applicable)
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- Emergency stop



## AppliTek TONI® - Online Total Nitrogen Analyzer

- Online total nitrogen analyzer, adapted Standard Method 4500-N
- True equimolecular response: full oxidation of all nitrogen compounds, without the necessity for matrix correction
- High quality rinsing, draining & cleaning pumps, micro pumps, oxidation vessel with Teflon cover, precision dispenser, colorimeter
- NEW 5 ¾" color touch screen with function buttons
- Standard auto-cleaning / optional auto-validation
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- **Available combined with on-line Total Phosphorus measurement** (depending on measuring range) **NIPHO®**



## AppliTek TOPHO® - Online Total Phosphorus Analyzer

- Online total phosphorus analyzer, method compliant with Standard Method 4500-P
- Low temperature oxidation technique guarantees full oxidation of all phosphorus compounds
- High quality rinsing, draining & cleaning pumps, micro-pumps, oxidation vessel with Teflon cover, precision dispenser, colorimeter
- NEW 5 ¾" color touch screen with function buttons
- Standard auto-cleaning
- Optional auto-validation
- Data logging of 1000 last recorded results
- Complete wet part / electronics separation
- Emergency stop
- **Available combined with on-line Total Nitrogen measurement** (depending on measuring range) **NIPHO®**



## AppliTek EnviroLyzer®

AppliTek developed the EnviroLyzer® as an automated analyzer platform with great analytical power for the monitoring of specific parameters in water matrices, yet on a small footprint and with low power consumption. Small, precision crafted components with precision operation controlled by the industrial PC allow for a small reagent consumption with minimized environmental impact.

Features such as auto-calibration, auto-validation and auto-cleaning are standard and allow the small on-line analyzer to be used in wide range of applications.

- Industrial computer with solid state data logger
- 5.7" color touch screen with immediate access to submenus
- History of the records of the last 1,000 analysis results
- Standard 4 to 20 mA signal output with alarm processing
- Standard Ethernet TCP/IP connection
- Data logs can be exported via USB or via Ethernet
- Remote maintenance and troubleshooting possible



## ChemScan Mini oP – Orthophosphate Analyzer

The new single parameter in-line analyzer family from ASA Analytics utilizes years of ChemScan® experience and proven technology to provide reliable and accurate analysis of water and waste water. This device has been designed from the ground up to reduce maintenance requirements, includes large ID sample tubing to minimize plugging and only needs quarterly reagent change out.

- PO<sub>4</sub>-P low range 0.03 – 3.0 ppm, standard range 0.1 – 6.0 ppm
- ChemScan's proven Vandate Molybdate method
- Low maintenance
- Automatic zeroing and cleaning
- Proven sample handling with large ID flow paths
- Simple field adjustable calibration
- Sample blank to eliminate background interference



## ChemScan UV4100 Multi Parameter Online Nutrient Analyzer

- Online 254 wavelength UV absorbance detection system
- Measures ammonia, nitrate, nitrite, orthophosphate and more, in one instrument
- Continuous online monitoring of up to 8 sample lines
- Benign, inexpensive non-proprietary reagents used
- No ion-specific electrodes to replace
- Automatic zero calibration and clean
- Integral cyclic filter and pump system allows sample to be drawn direct from reactor
- Designed for municipal and industrial wastewater plants
- Up to 8 4-20mA outputs for each parameter measured



**Proven technology with excellent references of satisfied users locally and around the world.**

## ChemScan UV2150/S Online Chloramination Analyzer

- Online 254 wavelength UV absorbance detection system
- Measures free and total ammonia, true monochloramine, and chlorine in one instrument (manganese available)
- Continuous online monitoring of 1 or 2 sample lines
- Benign, inexpensive non-proprietary reagents used
- No ion-specific electrodes to replace
- Automatic zero calibration and clean
- Integral pump system allows sample to be drawn direct from source. No sample filter needed in effluent applications
- Designed for municipal and industrial potable and wastewater processes
- 4-20mA outputs for each parameter measured



**Proven technology with excellent references of satisfied users locally and around the world.**



## ChemScan UV2150/N Online Ammonia and Nitrate Analyzer

- Continuous, online, automatic monitoring one or two sample lines
- Two Parameter Analysis
- Analogue, serial or MODBUS output capabilities
- Multiple Alarms (optional)
- Continual self-diagnostics with alarm
- Multiple wavelength UV absorbance detection system
- Internal multiple sample line manifold
- Automatic zero and clean
- Internal data logs
- Benign, inexpensive reagents
- No ion-specific electrodes to clean or replace
- Simple to use and maintain



## B&C Electronics TU7685 Online Turbidity Analyzer

This instrument is designed to operate together with TU810, TU8105, TU820 or TU8182 amplified turbidity probes which can be installed over 100m away from the controller.

- Selectable scales: 0/4.000 0/40.00 0/400.0 0/4,000 NTU  
0/4.000 0/40.00 0/400.0 0/4,000mg/l of PSL  
0/9.999 0/99.99 0/999.9 0/9,999mg/l of SiO<sub>2</sub>
- Auto ranging with dual filter software and alphanumeric backlit display
- 0-20mA or 4-20mA fully programmable output
- 2 set point with min/max function, hysteresis and adjustable delay
- Alarm relay for min/max turbidity, set point timing, dirty lens, empty cell, external light too high, and check signal of dirty lens
- Auto clean relay with programmable cycle repetition, cleaning and holding time



## B&C Electronics TU810/TU8105/TU820 Inline Turbidity Sensor

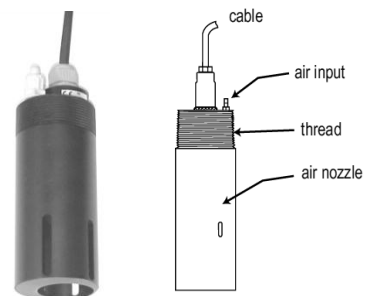
- Designed to be inserted in a 2" T-piece inline pipe fitting
- Resolution and range: 0.001 on scale 0/4.000 NTU  
0.01 on scale 0/40.00 NTU  
0.1 on scale 0/400.0 NTU  
1 on scale 0/4,000 NTU
- Accuracy:  $\pm 5\%$  of reading on 0/400 NTU  
 $\pm 10\%$  of reading on 400/4,000 NTU
- Light Source: TU810/8105 - LED I.R. 890nm  
TU820 - tungsten lamp 600nm sensitivity
- Measuring method: Nephelometric (ISO 7027 - EN 27027)



## B&C Electronics TU8182 Submersible Auto-Clean Turbidity Sensor

The turbidity probe TU 8182 (ISO 7027 - EN 27027) has been designed for submersible applications. It is provided with a built-in device for cleaning the optical lens by means of pressure air blasts (max 3Bar). The probe is operated by the TU 7685 controller. The controller provides the power to the amplifier of the probe and it activates the auto clean relay as programmed by the user.

- Resolution and range: 0.001 on scale 0/4.000 NTU  
0.01 on scale 0/40.00 NTU  
0.1 on scale 0/400.0 NTU  
1 on scale 0/4,000 NTU
- Accuracy:  $\pm 5\%$  of reading on 0/400 NTU  
 $\pm 10\%$  of reading on 400/4,000 NTU
- Measuring method: Nephelometric (ISO 7027 - EN 27027)



## Royce Technologies 7011A Online Total Suspended Solids Analyzer

The model 7011A online total suspended solids (TSS) analyzer is the tried and true performer that has buttressed the Royce Water line of solids analyzers for years. Still the most used TSS analyzer in the industry, the model 7011A is the primary single channel offer in the Royce Water line of analyzers.

- Multiple ranges: 0 - 10,000 up to 0 - 80,000mg/l (sensor dependent)
- Standard outputs: 4 - 20mA or 0 - 1V DC (isolated), RS-485 serial port (isolated and surge protected)
- Standard set points: 2 programmable set point relays
- Power supply: 115V AC / 240V AC
- The analyzer can control jet-cleaning of the sensors
- Setup and calibration is simple and quick



## Royce Technologies 72A Low Range Total Suspended Solids Tank Sensor

The model 72A is for low ranges commonly experienced in effluent streams (0 - 10mg/l minimum range). It incorporates a unique automatic ambient light compensating technology that allows for clean water monitoring, without requiring sample intake lines for reflection chambers. Automatic self-cleaning is also available.

- Type: single gap, optical
- Range: 0 - 10 up to 0 - 1500mg/l, 0 - 5 up to 0 - 500NTU
- Resolution: 1mg/l
- Accuracy:  $\pm 5\%$  of reading or  $\pm 5\text{mg/l}$ , whichever is greater
- Repeatability:  $\pm 1\%$  of reading or  $\pm 2\text{mg/l}$ , whichever is greater
- Operating limits: temperature 0 - 50°C
- Pressure: 0 - 50PSIG
- Size: 4.5"²
- Construction: chemically resistant polyurethane optics in a polyurethane housing



## Royce Technologies 73B/75A and 73/75P Medium Range Total Suspended Solids Sensors

The model 73B/P sensor is designed for mixed liquid suspended solids (MLSS) typically found in aeration basins. This sensor uses phased array color compensation to correlate light absorption with suspended solids.

The model 75A is designed for open channels that have a higher concentration of solids, such as return activated sludge that flows in open channels rather than in pipes.

- Type: single gap, optical, self-cleaning. Model 73B has phased array emitter/receptor combination for automatic color compensation
- 73 Range: 0 - 3,000 up to 0 - 30,000mg/l, 0 - 3%
- 75A Range: 0 - 5,000 up to 0 - 50,000mg/l (not phased array), 0 - 5%
- Accuracy: 73B:  $\pm 5\%$  of reading or  $\pm 100$  mg/l, whichever is greater  
75A:  $\pm 5\%$  of reading or  $\pm 150$  mg/l, whichever is greater
- Operating limits: temperature 0 - 50°C, pressure 0 - 50PSIG
- Construction: chemically resistant polyurethane optics with a molded polymer housing

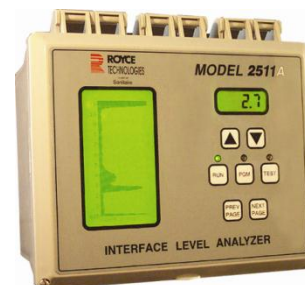


## Royce Technologies 2511A Online Interface/Sludge Blanket Level Analyzer

Royce Water offers a complete line of Interface Level Analyzers that make it possible to reliably monitor and control the solid/liquid interfaces in settling tanks, thickeners and clarifiers. The Royce Water series of interface level analyzers use an ultrasonic ranging technique to measure the depth of interfaces within the tank. The 25 series sensor is available in polyurethane for standard applications and Kynar for high temperature or chemical applications.

The graphical displays on the model 2511A provide three very useful functions such as easy step by step setup menu, profiles of the entire liquid column of the tank showing ALL solids interfaces and a trend of the interface level covering the last 24 hours.

- Outputs: 4-20mA isolated of interface level, can be scaled to any range  
4-20mA isolated, relative clarity of top four feet of tank  
programmable relay to operate sensor cleaning system



## Royce Technologies 711 Portable Total Suspended Solids & Sludge Blanket Meter

Our number 1 selling instrument! Hundreds in use throughout Australia. The Royce Water model 711 Portable Suspended Solids/Interface Level Analyzer is a rugged, waterproof instrument designed for the rigors of remote sampling. The meter provides reliable operation in waste treatment plants, rivers, lakes and other aqueous systems. The meter will read in either grams per litre when in the suspended solids mode, or relative density percentage while in the interface level mode of operation. The model 711 stores the calibration values for suspended solids and interface level in two separate memory locations allowing the user to switch between operational modes without having to recalibrate.

- Range: 0 - 10g/l (0 to 10,000mg/l)
- Input power: standard 9V battery
- Type: single gap, optical
- Accuracy:  $\pm 5\%$  of reading or  $\pm 100$ mg/l, whichever is greater





## RWT Q45D Portable Galvanic Dissolved Oxygen Meter with optional Data Logging

- For great versatility, we offer a portable Galvanic DO Meter operating from a standard 9V battery.
- As an option, this instrument can be supplied with an internal data logger, making it ideal for short term monitoring at remote sites. The unit will run for 10 days on a single battery, and the data logger will store up to 32,000 data points, easily enough for 10 days of data at 1 minute intervals.
- The galvanic dissolved oxygen sensor uses a rugged 5 mil Teflon membrane to resist mechanical abrasions and tears.
- Large, Dual Line Display: The large, high contrast, supertwist display provides excellent readability over a wide operating temperature range, even in low light conditions.
- Flexible Calibration: Air and sample calibration options include temperature, barometric pressure, and salinity compensation. All calibration methods include stability monitors to check temperature and main parameter stability before accepting data.



## RWT Q45D Optical Dissolved Oxygen Monitor and Sensor

RTW's Series Q45D has been providing reliable DO control in plants throughout the world for many years. Using a galvanic membraned sensor, this system is a proven performer in the most demanding applications.

Now, the Q45D is being upgraded with the addition of a new optical dissolved oxygen sensor that reduces maintenance to a new low. Based on fluorescence quenching technology, this sensor provides continuous DO monitoring with virtually no service, and still provides the reliability inherent with the Q45D automatic sensor cleaning system.

Optical DO sensors developed in the last few years use a technique that essentially measures the rate at which oxygen absorbs an optical signal generated within a membrane impregnated with a fluorescent dye. The dye within the optical element is excited by a pulse of light from an internal LED. This causes the dye to fluoresce, or emit light of a different wavelength. The rate at which this emitted light decays (or is "quenched") is proportional to molecular oxygen in the element. The higher the oxygen level, the faster the decay rate.

Optical sensors do not have internal electrolyte, so maintenance on this type of sensor is limited to changing the optical element. The optical element is designed to last a minimum of 2 years in normal operation, but will more often provide a life of 3-5 years unless mechanical damage occurs. Optical sensors also do not require flow across the sensor so measurements can be made more accurately in systems with low flows. Unlike some optical sensors, this sensor is not degraded by exposure to sunlight.



## Martini MI-411 Portable Free and Total Chlorine and pH Photometer

3 in 1 combination photometer. This latest laboratory grade microprocessor photometer has an excellent repeatability and is ideal for field measurements. Chlorine is the most commonly used water disinfectant.

Applications vary from treatment of drinking water and wastewater to pool and spa sanitization and food processing to sterilization. Martini instruments has developed the MI-411, a portable microprocessor based instrument to measure three critical parameters to ensure good water quality - pH, free chlorine and total chlorine.

This instrument provides greater resolution, better accuracy and immediate results. MI-411 is supplied in a hard carrying case including 2 cuvettes, reagents for 100 tests, wiping tissue and instruction manual.



- Range:
 

free chlorine:	0.00 to 5.00mg/L Cl <sub>2</sub>
total chlorine:	0.00 to 5.00mg/L Cl <sub>2</sub>
pH:	6.5 to 8.0pH



## Martini MI-405/407/408/412 Portable Ammonia, Iron and Phosphate Photometers

These user-friendly colorimeters will give you direct readings in mg/l.

- Range:
  - ammonia (MI-405) 0.00 to 9.99mg/l (NH<sub>3</sub>-N)
  - ammonia (MI-407) 0.00 to 3.00mg/l (NH<sub>3</sub>-N)
  - iron (MI-408) 0.00 to 5.00mg/l Fe
  - phosphate (MI-412) 0.00 to 2.50mg/l PO<sub>4</sub>
- Accuracy:
  - ammonia (MI-405)  $\pm 0.10$ mg/l at 5.00mg/l Nessler method
  - ammonia (MI-407)  $\pm 0.04$ mg/l at 1.50mg/l Nessler method
  - iron (MI-408)  $\pm 0.03$ mg/l at 1.50mg/l method 315 B, method 3500 - Fe B
  - phosphate (MI-412)  $\pm 0.04$ mg/l at 1.00mg/l ascorbic acid method adaptation



## Martini MI-415 Portable Turbidity Meter

Turbidity measures the clarity of a sample. For potable water applications turbidity is a good indicator of water quality. The Martini MI-415 has two operating ranges - 0.00 to 50.00FNU, and 50 to 1000FNU that can accommodate the most turbid condition the user may encounter. It is supplied in a hard carry case, complete with reagents.

- Range: 0.00 to 50.00FNU, 50 to 1000FNU
- Resolution: 0.01FNU, 1FNU
- Accuracy:  $\pm 0.5$ FNU or  $\pm 5\%$  of reading, whichever is greater
- Method: detection of scattered light
- Light source: high emission infrared LED light detector silicon photocell



## eXact® Micro 7+

The eXact® Micro 7+ offers seven modes which provide direct read capabilities for total alkalinity, bromine, calcium hardness, free chlorine, total chlorine, copper, ozone, permanganate, pH, and % transmission – which allows for testing of an additional 17 parameters. That is 26 parameters in all!

- 9 direct read parameters
- CE certification and USEPA compliant meter
- Waterproof meter (IP-67) and floats
- 0.01 ppm (mg/L) precision
- Automatic countdown timer
- 140 test memory (saves last 20 tests per menu)
- No-slip grip housing
- Built-in, permanent cell (no loose glass or plastic cells; simply fill or dip into water)
- Patented technology (for use in accordance with U.S. Patent No. 7,333,194)
- Incorporates eXact® strip technology (safe & reliable reagent dispersion)
- Lightweight (weighs only 6oz with batteries installed)
- Easy-to-read LCD display
- Environmentally friendly (recyclable parts & uses 60% less reagents than 10mL sample tests)
- Proprietary optics (allow for accurate testing without cap, though available)



Up to 26  
parameters!

## Ultrawaves - Ultrasonic Sludge Disintegration

Ultrawaves offers a specially developed ultrasonic reactor for a more efficient wastewater treatment method. The key aim in constructing the ultrasound apparatus is to produce a high degree of efficiency by rupturing the organic matter suspended in the fluid treated. This is why the reactor space in the Ultrawaves reactor has been optimized to obtain cavitation uniformly throughout the flow area.

The result is an exceptionally compact patented machine with a volume of only 28 litres. In comparison to traditional tanks/basins this is a "micro-reactor". The standard model is normally fitted with five oscillating units. Air-cooled piezo-ceramic transducers perform the transformation of electrical energy into mechanical acoustic energy.

With the standard model it is possible to treat a sludge flow of up to thirty cubic meters per day. For wastewater containing a lower concentration of biosolids the flow rate can be set higher.

The Ultrawaves ultrasonic reactor is distinguished by its:

- Compact construction
- Easy attachments (with standard pipe or tube fittings)
- Traditional pump-system interface
- Safety in use
- Modular characteristics
- Working capacity of 30m<sup>3</sup> /day per unit

Ultrawaves Reactors can be usefully employed for the following:

*Aerobic or anaerobic stabilization of sewage sludge and biomass by:*

- Intensifying the degradation process
- Reducing time required for treatment
- Reducing digester tank volume necessary
- Reducing quantity of sludge/biosolids disposal
- Increasing exploitable biogas production
- Improved dewatering capability

*Combating foam and bulking sludge by:*

- Preventing flotation by destroying the filamentous bacteria causing it
- Improved settling of sludge
- Avoiding foaming in the digestion process

*Biological elimination of nitrogen (de-nitrification) by:*

- Production of internal hydrogen sources
- No need to purchase external substrates

*Disinfection of "murky media" (wastewater, industrial water, water sludge):*

- A new procedure using ultrasound in combination with ultraviolet light is about to be introduced



• **Reliable full-scale applications worldwide since 2003**

• **Decrease digestion time (by up to 50%)**

• **Reduce digested sludge mass (by up to 20%)**

• **Produce more biogas (up to 30% more)**



## Tekleen MTF Mini Twist Filters (Self-Cleaning)

These filters are low-flow, fully automatic, self-cleaning water filtration systems. They can handle flow rates up to 80gpm with screens as small as 10µ.

The MTF filters use very little water for rinsing without interrupting the main flow and are rated to 9Bar and 90°C.

- Empty weight is from only 25kg
- Made with a 316l stainless steel body designed to meet a wide variety of industrial and irrigation applications
- Minimum pressure required for self-cleaning without disrupting main flow is 3bar inlet pressure
- GB6 Electronic Backwash Controller can be supplied for various backwash programs



## Tekleen OBF Medium Flow Filters (Self-Cleaning)

High quality is a feature of the OBF series of automatic self-cleaning water filters in stainless steel - at the same low price as carbon steel. They are maintenance free, saving costs in the labor of cleaning and replacing screens, bags, and cartridges every day the hard way.

Water filtration is one of the most effective and least expensive ways to solve equipment fouling and scaling problems caused by dirty water.

- Filters range from 2" to 4" and filtration is down to 10µ
- Filters operate on water pressure alone (min 3Bar), triggered by a d/p sensor
- Savings of up to 90% of rinse water
- Controlled by Electronic Backwash Controller



## Tekleen CSB Coarse Screen Brush Filters (Self-Cleaning)

Coarse Screen Brush (CSB) Filters are an ideal solution for incoming plant water from potentially contaminated open water sources. They are designed to filter contaminants such as algae, clams, zebra mussels, fish, leaves, etc. and are compact in size with very high flow capacity.

Studies have shown that .002" fouling will increase water pumping needs by 20%, hence the requirement for effective water filtration.

- Configurations available with wedge-wire, mesh, or perforated screens from 200µ - 4,000µ
- Cleaning cycle initiated by differential pressure or by timer - no interruptions to the main flow while cleaning the entire screen



## Tekleen ABW Automatic Backwash Filters (Self-Cleaning)

The filters can be custom manufactured to meet a wide range of industrial applications such as ASME coded, sea water, high temperature, high pressure, etc.

- Filter bodies available in carbon steel with baked-on epoxy coating, stainless steel, or titanium
- Complete with stainless steel screens
- Can be manifolded together for unlimited flow capacities
- Cleaning cycle initiated by differential pressure or by timer - no interruptions to the main flow while cleaning the entire screen
- Available in a wide range of industrial configurations



## Tekleen LPF Low Pressure Filters (Self-Cleaning)

This is a new line of fully automatic self-cleaning water filters with working pressure as low as 1 bar up to 9 Bar. They are available in a wide range of industrial configurations and are designed and manufactured in accordance with ANSI and ASME requirements. ASME U stamp is an option.

- Sizes range from 3" - 16"
- Flow rates from 10 - 6,000gpm
- Screen mesh from 50 - 3,000 $\mu$
- Available in stainless steel, carbon steel with powder epoxy coating, and titanium
- Clean filter pressure drop with 100 $\mu$  screen less than 10kpa at the rated flow of filter
- Uses an electric motor to facilitate cleaning cycle
- Triggered to flush by a differential pressure switch, timer, or manually
- Using new "Tekrinse Technology", 90% less rinse water than other filters is used



## SonicSolutions® 400/500/600 Algae Control Sonic Transducers

SonicSolutions® use the resonance of the ultrasonic waves to disrupt algae cells. The submerged transducer is programmed to generate ultrasonic waves that are directed at the vacuole of the algae. These waves weaken the cell membranes resulting in a leakage of cytoplasm and a collapse of the cell into a dense brown mass. The cells may remain buoyant for up to 4-5 weeks after exposure, although they are no longer viable.

The ultrasonic waves extend only in front of the transducer unit. The SonicSolutions® algae control device emits ultrasonic waves that "fan out" at approximately 180 degrees from the front of the transducer.

The nutrient level, turbidity, shape of the body of water and latitude affect the coverage area. The potential coverage for the SonicSolutions® 400 model can be as much as 1.5 acres, the 500 model up to 3 acres, and even greater for the 600 model.

For optimal exposure of the ultrasonic waves in the body of water, the unit should be close to the edge of the pond. Large installations and certain shapes of ponds or lakes may require installation of more than one unit. Multiple devices can be installed at opposite sides of a lake or pond, or attached together pointing in different directions.

Electron Microscopy of Sonic Solutions  
Effect on Algae



## BYO-GON PX109® Alkaloid Odour and FOG Control Liquid Solution

BYO-GON PX-109® is NOT a bacteria, nor an enzyme. It is an alkaloid, Xeronine, which was developed and patented by the Research Corporation of the University of Hawaii. This first published article on the alkaloid was published by Heinicke, R., "Xeronine, A New Alkaloid, Useful in Medical, Food and Industrial Fields", Hawaii Medical Journal, The Research Corporation of the University of Hawaii, Vol. 36, 1997.

BYO-GON PX-109® has proven time and time again to effectively work in wastewater treatment facilities in every market in which it has been tried. Using this product actually speeds up the treatment process and can do the following, based on application rates and points of injection:

- Lower BOD, TSS
- Reduce oil, grease, and sludge
- Eliminate odors
- Reduce sludge volume in the treatment facilities and lagoons

- BYO-GON PX-109® is supplied in 20 liter and 210 liter containers



## Infinite iLOG GSM/LAN/RS232 Data-logger and Remote Telemetry Transmitter

iLogPlus RTU/Data-loggers are internet enabled devices especially suited for remote data acquisition, distributed telemetry and remote control. The units act as master devices and send alarms and data files on their own via FTP, email and SMS.

All unit types carry a built-in TCP/IP web server with live web pages that can be accessed by any Internet browser application. They accept and serve TCP and SMS commands for interactive operation in a SCADA system. Analogue inputs and digital I/O are expandable by means of I/O expansion modules, plugging on a serial I/O expansion bus. The basic model has 4 analogue inputs and 4 digital inputs with 2 relay outputs.



Innovative

## Infinite SCOM SMS Remote Control Unit

SCOM-100 is a low cost, DIN rail mounted controller unit for alarm annunciation and remote control using SMS. The main unit incorporates a Quad Band modem, 2 analogue inputs, 4 digital inputs, 4 power relay outputs and a serial RS-232 port. Front panel LED indicators monitor control and digital I/O states. A variety of I/O expansion units digital and analogue I/O can be cascaded on the serial I/O expansion bus to meet the application requirements.

All setup and control is done using your mobile phone. Simply insert a SIM card with your name and phone number in the phone list and press the startup button during power up. Several commands can be packed in one SMS. The RS-232 interface can be used to alternatively set up and test the unit using a PC or an ASCII terminal.

The rich command set features commands for configuring input alarm parameters, setup of irrigation and time scheduled programs, control functions like on/off and PID control, defining user groups and controlling system outputs with time related parameters.



## Ametek Jofra ATC High Accuracy Advanced Dry Block/Wet Well Temperature Calibrators

All JOFRA ATC Series models feature the unique dual-zone heating block. This new design has a performance equivalent to a liquid temperature bath. Each ATC dry-block calibrator may be used to perform fully automatic calibration routines without using an external computer. Units may also be supplied with inputs for external reference sensors and for sensors under test. All ATC calibrators feature RS232 serial communication and standard delivery also includes the JOFRACAL calibration PC software.



- ATC125                      Range:                      -90°C to +125°C  
                                    Accuracy:                      0.06°C
- ATC140                      Range:                      -20°C to +140°C  
                                    Accuracy:                      0.04°C
- ATC157                      Range:                      -45°C to +155°C  
                                    Accuracy:                      0.04°C  
                                    Other ranges available
- ATC250                      Range:                      +33°C to +250°C  
                                    Accuracy:                      0.07°C
- ATC650                      Range:                      +33°C to +650°C  
                                    Accuracy:                      0.11°C
- ATC140 and ATC250 have a wet well option as well as a 63mm diameter dry well.

## Ametek Jofra ASM Multiple Input Process Signal Calibrator Interface

The ASM series (Advanced Signal Multiscanner) offers a great time-saving automatic solution to calibrate multiple temperature sensors at the same time. It is an eight channel scanner controlled by JOFRACAL software on a PC.

The ASM800 series is designed for use in all companies where temperature measurement is critical and/or there is a need to make traceable documents for the calibration.



- Up to 3 ASM units can be stacked to calibrate up to 24 sensors at the same time
- It can handle signals from 2, 3 and 4 wire RTD's, TC's, transmitters, thermistors, temperature switches and voltage
- Easy, flexible and time-saving

## Ametek Jofra RTC Highest Accuracy Dry Block Reference Temperature Calibrators

The new JOFRA RTC series features patented Dynamic Load Compensation (DLC). The DLC automatically compensates for load changes in the Dry Block. It provides perfect temperature uniformity in the insert even when calibrating large sensors or many sensors at the same time. The RTC features Jofra's well-known active dual-zone heating technology. Each heating zone is independently controlled for precision temperature calibration.

The homogeneity in the lower part is close to that of a laboratory liquid bath. The lower zone ensures optimum heat dissipation throughout the entire calibration zone. The upper zone compensates for heat loss from the sensor-under-test and from the open top. This design also eliminates the need for extra insulation of sensors-under-test and makes it possible to calibrate liquid-filled and other mechanical sensors. Each RTC dry-block calibrator may be used to perform fully automatic calibration routines without using an external computer. All RTC calibrators are able to communicate with a PC via the USB port. Standard delivery also includes the JOFRACAL calibration PC software.



- RTC156                      Range: -30°C to +155°C                      Accuracy: 0.04°C
- RTC157                      Range: -45°C to +155°C                      Accuracy: 0.04°C
- RTC700                      Range: +33°C to 700°C                      Accuracy: 0.04°C



## Ametek Jofra ITC Intermediate Dry Block Temperature Calibrators

The ITC series employs the slim and rugged design of the CTC series and features intuitive user interface. However, the ITC is designed with the state-of-the-art dual-zone heating block and MVI circuitry that has been adopted from the ATC series. The MVI circuitry ensures stable temperatures even when the mains supply is unstable. The ITC series is designed for both on-site and maintenance shop use. The applications are generally critical process control but can vary based on calibration and testing requirements. The ITC series dry-block calibrators are equipped with RS232 serial communication capabilities. JOFRACAL Software included.



- ITC155                      Range:                      -23°C to +155°C  
                                    Accuracy:                      0.25°C
- ITC320                      Range:                      +33°C to +320°C  
                                    Accuracy:                      0.30°C
- ITC650                      Range:                      +33°C to +650°C  
                                    Accuracy:                      0.50°C

## Ametek Jofra CTC Compact Dry Block Temperature Calibrators

The CTC series is designed for both on-site and maintenance shop use. The applications are generally critical process control but can vary based on calibration and testing requirements. The user interface is intuitive and easy to use. One-key-one-function gives you quick access to timesaving features such as the switch test or the auto-stepping function. For easy documentation and automatic calibration, all units are delivered with RS232 serial communication and JOFRACAL calibration software.



- CTC140                      Range:                      -17°C to +140°C  
                                    Accuracy:                      0.4°C
- CTC320                      Range:                      +33°C to +320°C  
                                    Accuracy:                      0.5°C
- CTC650                      Range:                      +33°C to +650°C  
                                    Accuracy:                      0.9°C
- CTC1200                      Range:                      +300°C to +1205°C  
                                    Accuracy:                      2.0°C

## Ametek Jofra ETC Field Dry Block Temperature Calibrators

Designed for people who perform tests and verifications of temperature sensing devices in the field. This instrument is ideal when time and the highest accuracy are critical factors. Reduced size and weight are important considerations because the unit is able to fit into a tool box or instrument carry-case, and can be used for sensors that are difficult to access. One-key-one-function user interface provides immediate access to setting the temperature and the auto-step timesaving function. There is no need for manipulation of sophisticated menus. The stability indicator provides audible and visual prompts when the temperature is stable. This function also includes a 3 minute countdown before the stable condition. JOFRACAL software is also included.



- ETC125A                      Range:                      -10°C to +125°C  
                                    Accuracy:                      0.5°C
- ETC400A                      Range:                      +33°C to +400°C  
                                    Accuracy:                      0.5°C
- ETC400R Infra-Red                      Range:                      +33°C to +400°C  
                                    Accuracy:                      0.5°C

## Ametek Jofra DTI1000 High Precision Temperature Meter

The JOFRA DTI-1000 with an STS-probe is a fully traceable thermometer recommended as the reference instrument to verify the true temperature in any type of temperature calibrator, liquid bath, or dry-block calibrator.

Use the JOFRA DTI-1000 and the STS probes as your working temperature reference in any calibration application or use the set-up directly in custody transfer applications where high accuracy (low uncertainty) means money. The superior specifications combined with a long history of reliability and low drift have made the JOFRA DTI-1000 and the STS probes the working standard in many national laboratories worldwide.

The JOFRA STS industrial temperature reference probes are built to last. All JOFRA superior temperature standard probes are economical and offer fast response times, low immersion depths, compact physical sizes, and specified low drift rates - even at high temperatures.

- System accuracy: -50 to 650°C  $\pm 0.060^{\circ}\text{C}$



## Ametek Jofra DTI Precision Portable Temperature Meter

The JOFRA DTI050 with a JOFRA STS temperature reference sensor is a fully traceable thermometer recommended as the reference instrument to verify true temperature in any type of temperature calibrator, liquid bath, or dry-block calibrator. Use the JOFRA DTI050 and the STS probes as your working temperature reference in any calibration application or use the set-up directly for critical measurements in the process.

The superior specifications, combined with a long history of reliability and low drift, make the JOFRA DTI050 and the JOFRA STS probes the perfect choice. The graphical display makes it is easy to recognize the status of the instrument and take readings. The DTI050 also handles signals from 4-wire RTD's, TC's and thermistors.

Uses intelligent memory chip technology - a memory chip in the sensor cable connector stores the calibration co-efficient. The display on the instrument is therefore automatically linearized, removing calibration errors.

- System accuracy: -50 to 400°C  $\pm 0.065^{\circ}\text{C}$



## Ametek Jofra MACAL Loop Calibrator

The mAcal Milliamp Calibrator is an economical and easy to-use calibration device for sourcing and measuring mA signals. The instrument is designed specifically for 2-wire transmitter loops with 4 to 20mA signals, and is delivered with traceable certification.

This calibrator provides loop power in the range of 0 to 45V DC and is designed to generate a stable 24V DC supply for the loop. The mAcal Loop Calibrator also reduces the time and complexity often associated with loop calibration. It features special fixed steps for performing linear and flow transmitter, or valve positioner calibrations.

The instrument has seven different built-in current values and the user may choose between manual or automatic steps, with 10 or 30 seconds between steps. You can perform an entire test by placing the mAcal in the process loop and taking readings from the control room.



## Ametek Jofra ASC300 Multifunction Signal Calibrator (Simulate and Measure)

The ASC300 is substantial enough to cover all your needs for a process signal calibrator with superior accuracy and compact enough to fit into your tool box and can be operated with one hand for easy field calibration. The ASC300 can change your entire calibration regimen for signal, pressure and temperature. You can combine this versatile calibrator with the APM external pressure modules, or a JOFRA dry block calibrator to meet your calibration needs. The JOFRA ASC300 measures and sources TCs, RTDs, current, voltage, frequency, and pulse trains.

This instrument is also designed to be compatible with the JOFRA APM pressure modules and thus offering true multi-function operability. There are two channels of operation providing the user with an isolated read-back circuit. The graphical display makes it is easy to recognize the status of the instrument, take readings, and simulate different functions. The JOFRA ASC300 has full fuse-less protection to 240V AC, which is an important feature as most failures in signal calibrators result from overvoltage conditions.



## Ametek Jofra DPC500 Precision Documenting Pressure Calibrator and Hand Pumps

The electronic pressure calibrator DPC-500 measures pressure, voltage and current, supplying 24V DC as a source for transmitters. Calibration procedures can be pre-defined and used for calibrations on site. The DPC-500 is featured with USB and RS232 interfaces and is powered by a Lithium-Ion battery. The built-in reference sensor is changeable, whereby several pressure ranges can be covered with one DPC-500 unit. All standard pressure ranges between vacuum and 1000 bar (0-14,500psi) are available, as well as vacuum and absolute pressure ranges.

AMETEK offers the user several solutions for pressure generation. This line spans from a small pneumatic "bicycle" style pump to a hydraulic pump that generates up to 1,000 bar (15,000psi). These are durable pumps with features such as vernier valves, vent valves, manifold connections, swivel fittings, and optional O-ring materials and fittings making the pumps flexible to meet your various calibration and testing applications.



## Ametek Jofra DWT Dead Weight Testers

In 1966, Mansfield & Green introduced the Dead Weight Tester based on the "floating ball" principal. This type of dead weight tester is an easy to use, accurate and reliable primary standard, and is now earning its name as "standard of standards". The Mansfield and Green range of dead weight testers comprises of:

- Type T series (hydraulic)
- Type HK series (pneumatic)
- Type PK11 series (pneumatic)
- Type RK series (pneumatic)
- Type HL series (hydraulic)



## Ametek Jofra HPC 400 Handheld Pressure Calibrator

The HPC400 features:

- Rugged economical Field Pressure Calibrator
- Quick and reliable measurements
- Designed for verification or calibration of pressure gauges, transducers, transmitters, pressure switches, and safety valves.
- HPC400's time-saving features make calibration tasks easy to perform - all relevant information is shown in the large multi information display at once e.g.: 5 different pressure units, transmitter mA reading, min/max recording, peak reading, and semi-automatic pressure switch test recording the closing, opening and hysteresis pressure (deadband), as well as 5 user specified setups for frequent measurement/calibration jobs.
- Maintenance of the instrument is easy and Recalibration of the unit can be performed locally with an accurate pressure reference - no need to send the unit back to the manufacturer for recalibration.
- The HPC can be delivered as an individual calibrator or as a complete calibration system ready for use in a carrying case, including pump, hose, connectors, battery, test leads, user manual, and traceable calibration certificate.



## Ametek Jofra HPC 500 Advanced Handheld Pressure Calibrator

HPC500 calibrators feature:

- Standard HPC500 has one Pressure Port and HPC502 is available with 2 Pressure Port input and optional high accuracy Handheld Temperature Probe.
- The HPC is available as an independent calibrator or in one of 6 ready-for-test systems that are complete and equipped to meet any need for pressure calibration.
- The HPC offers features such as user configurable information display, 15 different pressure units, transmitter supply, mA input, % error calculation, voltage measurement, serial communication, and external pressure module capability.
- The accuracy of the HPC500 calibrators is specified in % of reading to ensure an even better accuracy and wider applicable pressure range.
- The HPC is temperature compensated from 0 to 50°C for on-site operation.
- The JOFRA APM series of pressure modules extends the application base of the HPC calibrators by allowing calibrations in additional ranges.
- Calibration of the instrument may be performed locally without returning the HPC unit to the manufacturer.
- Adjustment software is part of the design - you just need an accurate pressure reference and a PC.



## Ametek Jofra HPC600 Handheld Pressure Calibrator with Built-in Electric Pump

The HPC600 features:

- Electrical pressure generation of pressure or vacuum by a touch of a key.
- No use of manual pump with ranges up to 10Bar
- Complete mA loop calibrator
- New solid casing
- 15 standard pressure units
- Switch test (high speed data sampling)
- Menu-driven user interface, high-resolution backlit display and function / cursor keys
- Complete range of functions and features
- Voltmeter
- Temperature measurement (thermometer)
- Resolution low/high
- Leak test
- Light timer





## FasTest® FasCal Calibration Connection Tools

FasTest's complete line of calibration connection tools feature a patented pressure assisted grip and seal technology that provide leak tight connections, resulting in the highest level of accuracy in the fastest time possible. The ergonomically designed connection tools improve productivity, product quality and user comfort. Choose FasTest calibration connection tools to eliminate sealants, thread damage and wrench tightening, and benefit from an improved calibration process and quality at reduced costs.

- No thread damage
- No need for wrenches or pipe sealant



FasTest's calibration connectivity tools are specifically designed to meet the most frequent challenges or problems facing technicians that calibrate instruments such as transmitters, pressure gauges and transducers.

### *Calibration technician challenges:*

- Calibrate a large quantity of instruments in a short period of time
- Create leak tight connections to a variety of thread profiles
- Eliminate thread damage to instruments
- Minimize contamination to process media

FasTest's "plug and play" modular connectivity tools eliminate the traditional process of using tape sealant, wrenches and a bit of muscle to create leak tight connections. Comparisons of the FasTest way to traditional methods has shown at least a 5X efficiency improvement.

### *Connectors for the industries most common:*

- Calibrators
- Valve Actuators
- Pressure Gauges
- Transducers
- Compression Fittings
- Pipe Threads



## RTCS Royce Total Calibration Solution

One Carry Case Calibration Kit includes:

- Jofra ETC Dry Block Temperature Calibrator
- Jofra HPC600 Pressure Calibrator w/ internal pressure pump
- Jofra ASC300 Signal Calibrator

Temperature, Pressure & Signal Calibration all in one.

All stored securely in an Aluminium Carry Case.

Includes Jofracal Software for Calibration Reports and Certificates.

Ideal for Field Calibrations.

Many standard & custom configurations available to suit your requirements.



## Notes





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Algae Control

Ammonia

Bed Level Detector

Calibration

Chlorine

Chloramination

Conductivity

Dead Weight Testers

Dissolved Oxygen

Interface Level

ISE

Monochloramine

Nitrate / Nitrite

Nutrient Measurement

Odour / FOG Control

Ortho-Phosphate

pH / ORP

Remote Monitoring

Self-Cleaning Filters

Sludge Blanket Level

SRT Control

Suspended Solids

Trace Metal Analysers

Turbidity

Ultrasonic Sludge -

Disintegration



**AppliTek**

